



SEQUENCE LISTING

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<120> Novel means and methods for the preparation and
activation of nucleoside and nucleotide based drugs

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<150> PCT/EP99/00945

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<170> 15

<180> PatentIn Ver. 2.1

<210> 1

<211> 240

<212> PRT

<213> African swine fever virus

<400> 1

Met Arg Gly Ile Leu Ile Thr Ile Glu Gly Ile Asn Gly Val Gly Lys
1 5 10 15

Ser Thr Gln Ala Met Arg Leu Lys Lys Ala Leu Glu Cys Met Asp Tyr
20 25 30

Asn Ala Val Cys Ile Arg Phe Pro Asn Pro Asp Thr Thr Thr Gly Gly
35 40 45

Leu Ile Leu Gln Val Leu Asn Lys Met Thr Glu Met Ser Ser Glu Gln
50 55 60

Leu His Lys Leu Phe Thr Lys His His Ser Glu Phe Ser Ala Glu Ile
65 70 75 80

Ala Ala Leu Leu Lys Leu Asn Phe Ile Val Ile Val Asp His Tyr Ile

85					90					95					
Trp	Ser	Gly	Leu	Ala	Tyr	Ala	Gln	Ala	Asp	Gly	Ile	Thr	Ile	Glu	Thr
			100					105					110		
Lys	Asn	Ile	Phe	Lys	Pro	Asp	Tyr	Thr	Phe	Phe	Leu	Ser	Ser	Lys	Lys
		115					120					125			
Pro	Leu	Asn	Glu	Lys	Pro	Leu	Thr	Leu	Gln	Arg	Leu	Phe	Glu	Thr	Lys
	130					135					140				
Glu	Lys	Gln	Glu	Thr	Ile	Phe	Thr	Asn	Phe	Thr	Ile	Ile	Met	Asn	Asp
145					150					155					160
Val	Pro	Lys	Asn	Arg	Leu	Cys	Ile	Ile	Pro	Ala	Thr	Leu	Asn	Lys	Glu
				165					170					175	
Ile	Ile	His	Thr	Met	Ile	Leu	Thr	Lys	Thr	Ile	Lys	Val	Phe	Asp	Asn
			180					185					190		
Asn	Ser	Cys	Leu	Asn	Tyr	Ile	Lys	Met	Tyr	Asp	Asp	Lys	Tyr	Leu	Asn
		195					200					205			
Val	Gln	Asp	Leu	Asn	Leu	Phe	Asp	Phe	Asp	Trp	Gln	Lys	Cys	Ile	Glu
	210					215					220				
Asp	Asn	Asn	Asp	Lys	Glu	Glu	Tyr	Asp	Asp	Asp	Asp	Gly	Phe	Ile	Ile
225					230					235					240

<210> 2
 <211> 212
 <212> PRT
 <213> Bacillus subtilis

<400> 2
 Met Ser Gly Leu Phe Ile Thr Phe Glu Gly Pro Glu Gly Ala Gly Lys
 1 5 10 15
 Thr Thr Val Leu Gln Glu Ile Lys Asn Ile Leu Thr Ala Glu Gly Leu
 20 25 30
 Gln Val Met Ala Thr Arg Glu Pro Gly Gly Ile Asp Ile Ala Glu Gln
 35 40 45

Ile Arg Glu Val Ile Leu Asn Glu Asn Asn Ile Leu Met Asp Pro Lys
 50 55 60
 Thr Glu Ala Leu Leu Tyr Ala Ala Ala Arg Arg Gln His Leu Val Glu
 65 70 75 80
 Lys Val Lys Pro Ala Leu Glu Gln Gly Phe Ile Val Leu Cys Asp Arg
 85 90 95
 Phe Ile Asp Ser Pro Leu Ala Tyr Gln Gly Tyr Ala Arg Gly Leu Gly
 100 105 110
 Ile Asp Glu Val Leu Ser Ile Asn Glu Phe Ala Ile Gly Asp Met Met
 115 120 125
 Pro His Val Thr Val Tyr Phe Ser Ile Asp Pro Glu Glu Gly Leu Lys
 130 135 140
 Arg Ile Tyr Ala Asn Gly Ser Arg Glu Lys Asn Arg Leu Asp Leu Glu
 145 150 155 160
 Lys Leu Asp Phe His Thr Lys Val Gln Glu Gly Tyr Gln Glu Leu Met
 165 170 175
 Lys Arg Phe Pro Glu Arg Phe His Ser Val Asp Ala Gly Gln Ser Lys
 180 185 190
 Asp Leu Val Val Gln Asp Val Leu Lys Val Ile Asp Glu Ala Leu Lys
 195 200 205
 Lys Ile Gln Leu
 210

<210> 3
 <211> 213
 <212> PRT
 <213> Escherichia coli

<400> 3
 Met Arg Ser Lys Tyr Ile Val Ile Glu Gly Leu Glu Gly Ala Gly Lys
 1 5 10 15
 Thr Thr Ala Arg Asn Val Val Val Glu Thr Leu Glu Gln Leu Gly Ile
 20 25 30
 Arg Asp Met Val Phe Thr Arg Glu Pro Gly Gly Thr Gln Leu Ala Glu
 35 40 45

Lys Leu Arg Ser Leu Val Leu Asp Ile Lys Ser Val Gly Asp Glu Val
 50 55 60
 Ile Thr Asp Lys Ala Glu Val Leu Met Phe Tyr Ala Ala Arg Val Gln
 65 70 75 80
 Leu Val Glu Thr Val Ile Lys Pro Ala Leu Ala Asn Gly Thr Trp Val
 85 90 95
 Ile Gly Asp Arg His Asp Leu Ser Thr Gln Ala Tyr Gln Gly Gly Gly
 100 105 110
 Arg Gly Ile Asp Gln His Met Leu Ala Thr Leu Arg Asp Ala Val Leu
 115 120 125
 Gly Asp Phe Arg Pro Asp Leu Thr Leu Tyr Leu Asp Val Thr Pro Glu
 130 135 140
 Val Gly Leu Lys Arg Ala Arg Ala Arg Gly Glu Leu Asp Arg Ile Glu
 145 150 155 160
 Gln Glu Ser Phe Asp Phe Phe Asn Arg Thr Arg Ala Arg Tyr Leu Glu
 165 170 175
 Leu Ala Ala Gln Asp Lys Ser Ile His Thr Ile Asp Ala Thr Gln Pro
 180 185 190
 Leu Glu Ala Val Met Asp Ala Ile Arg Thr Thr Val Thr His Trp Val
 195 200 205
 Lys Glu Leu Asp Ala
 210

<210> 4
 <211> 210
 <212> PRT
 <213> Haemophilus influenzae

<400> 4
 Met Lys Gly Lys Phe Ile Val Ile Glu Gly Leu Glu Gly Ala Gly Lys
 1 5 10 15
 Ser Ser Ala His Gln Ser Val Val Arg Val Leu His Glu Leu Gly Ile
 20 25 30
 Gln Asp Val Val Phe Thr Arg Glu Pro Gly Gly Thr Pro Leu Ala Glu

		35					40						45						
Lys	Leu	Arg	His	Leu	Ile	Lys	His	Glu	Thr	Glu	Glu	Pro	Val	Thr	Asp				
	50					55					60								
Lys	Ala	Glu	Leu	Leu	Met	Leu	Tyr	Ala	Ala	Arg	Ile	Gln	Leu	Val	Glu				
65					70					75					80				
Asn	Val	Ile	Lys	Pro	Ala	Leu	Met	Gln	Gly	Lys	Trp	Val	Val	Gly	Asp				
				85					90					95					
Arg	His	Asp	Met	Ser	Ser	Gln	Ala	Tyr	Gln	Gly	Gly	Gly	Arg	Gln	Leu				
			100					105					110						
Asp	Pro	His	Phe	Met	Leu	Thr	Leu	Lys	Glu	Thr	Val	Leu	Gly	Asn	Phe				
		115					120					125							
Glu	Pro	Asp	Leu	Thr	Ile	Tyr	Leu	Asp	Ile	Asp	Pro	Ser	Val	Gly	Leu				
	130					135					140								
Ala	Arg	Ala	Arg	Gly	Arg	Gly	Glu	Leu	Asp	Arg	Ile	Glu	Gln	Met	Asp				
145					150					155					160				
Leu	Asp	Phe	Phe	His	Arg	Thr	Arg	Ala	Arg	Tyr	Leu	Glu	Leu	Val	Lys				
				165					170					175					
Asp	Asn	Pro	Lys	Ala	Val	Val	Ile	Asn	Ala	Glu	Gln	Ser	Ile	Glu	Leu				
			180					185					190						
Val	Gln	Ala	Asp	Ile	Glu	Ser	Ala	Val	Lys	Asn	Trp	Trp	Lys	Ser	Asn				
		195					200					205							
Glu	Lys																		
	210																		

<210> 5
 <211> 212
 <212> PRT
 <213> Homo sapiens

<400> 5
 Met Ala Ala Arg Arg Gly Ala Leu Ile Val Leu Glu Gly Val Asp Arg
 1 5 10 15
 Ala Gly Lys Ser Thr Gln Ser Arg Lys Leu Val Glu Ala Leu Cys Ala
 20 25 30

Ala Gly His Arg Ala Glu Leu Leu Arg Phe Pro Glu Arg Ser Thr Glu
 35 40 45
 Ile Gly Lys Leu Leu Ser Ser Tyr Leu Gln Lys Lys Ser Asp Val Glu
 50 55 60
 Asp His Ser Val His Leu Leu Phe Ser Ala Asn Arg Trp Glu Gln Val
 65 70 75 80
 Pro Leu Ile Lys Glu Lys Leu Ser Gln Gly Val Thr Leu Val Val Asp
 85 90 95
 Arg Tyr Ala Phe Ser Gly Val Ala Phe Thr Gly Ala Lys Glu Asn Phe
 100 105 110
 Ser Leu Asp Trp Cys Lys Gln Pro Asp Val Gly Leu Pro Lys Pro Asp
 115 120 125
 Leu Val Leu Phe Leu Gln Leu Gln Leu Ala Asp Ala Ala Lys Arg Gly
 130 135 140
 Ala Phe Gly His Glu Arg Tyr Glu Asn Gly Ala Phe Gln Glu Arg Ala
 145 150 155 160
 Leu Arg Cys Phe His Gln Leu Met Lys Asp Thr Thr Leu Asn Trp Lys
 165 170 175
 Met Val Asp Ala Ser Lys Arg Leu Glu Ala Val His Glu Glu Leu Arg
 180 185 190
 Val Leu Ser Glu Asp Ala Ile Arg Thr Ala Thr Glu Lys Pro Leu Gly
 195 200 205
 Glu Leu Trp Lys
 210

<210> 6
 <211> 188
 <212> PRT
 <213> Methanococcus jannaschii

<400> 6
 Met Val Asp Asn Met Phe Ile Val Phe Glu Gly Ile Asp Gly Ser Gly
 1 5 10 15
 Lys Thr Thr Gln Ser Lys Leu Leu Ala Lys Lys Met Asp Ala Phe Trp
 20 25 30

Thr	Tyr	Glu	Pro	Ser	Asn	Ser	Leu	Val	Gly	Lys	Ile	Ile	Arg	Glu	Ile	
		35					40					45				
Leu	Ser	Gly	Lys	Thr	Glu	Val	Asp	Asn	Lys	Thr	Leu	Ala	Leu	Leu	Phe	
	50					55					60					
Ala	Ala	Asp	Arg	Ile	Glu	His	Thr	Lys	Leu	Ile	Lys	Glu	Glu	Leu	Lys	
	65				70					75					80	
Lys	Arg	Asp	Val	Val	Cys	Asp	Arg	Tyr	Leu	Tyr	Ser	Ser	Ile	Ala	Tyr	
				85					90					95		
Gln	Ser	Val	Ala	Gly	Val	Asp	Glu	Asn	Phe	Ile	Lys	Ser	Ile	Asn	Arg	
			100					105					110			
Tyr	Ala	Leu	Lys	Pro	Asp	Ile	Val	Phe	Leu	Leu	Ile	Val	Asp	Ile	Glu	
		115					120					125				
Thr	Ala	Leu	Lys	Arg	Val	Lys	Thr	Lys	Asp	Ile	Phe	Glu	Lys	Lys	Asp	
	130					135					140					
Phe	Leu	Lys	Lys	Val	Gln	Asp	Lys	Tyr	Leu	Glu	Leu	Ala	Glu	Glu	Tyr	
	145				150					155					160	
Asn	Phe	Ile	Val	Ile	Asp	Thr	Thr	Lys	Lys	Ser	Val	Glu	Glu	Val	His	
				165					170					175		
Asn	Glu	Ile	Ile	Gly	Tyr	Leu	Lys	Asn	Ile	Pro	His					
		180						185								

<210> 7
 <211> 227
 <212> PRT
 <213> Mus musculus

<400> 7																
Met	Ala	Ser	Arg	Arg	Gly	Ala	Leu	Ile	Val	Leu	Glu	Gly	Val	Asp	Arg	
	1			5					10					15		
Ala	Gly	Lys	Thr	Thr	Gln	Gly	Leu	Lys	Leu	Val	Thr	Ala	Leu	Cys	Ala	
			20					25					30			
Ser	Gly	His	Arg	Ala	Glu	Leu	Leu	Arg	Phe	Pro	Glu	Arg	Ser	Thr	Glu	
		35					40					45				
Ile	Gly	Lys	Leu	Leu	Asn	Ser	Tyr	Leu	Glu	Lys	Lys	Thr	Glu	Leu	Glu	

50		55		60
Asp His Ser Val His Leu Leu Phe Ser Ala Asn Arg Trp Glu Gln Val				
65		70		75
Pro Leu Ile Lys Ala Lys Leu Asn Gln Gly Val Thr Leu Val Leu Asp				
	85		90	95
Arg Tyr Ala Phe Ser Gly Val Ala Phe Thr Gly Ala Lys Glu Asn Phe				
	100		105	110
Ser Leu Asp Trp Cys Lys Gln Pro Asp Val Gly Leu Pro Lys Pro Asp				
	115		120	125
Leu Ile Leu Phe Leu Gln Leu Gln Leu Leu Asp Ala Ala Ala Arg Gly				
	130		135	140
Glu Phe Gly Leu Glu Arg Tyr Glu Thr Gly Thr Phe Gln Lys Gln Val				
145		150		155
Leu Leu Cys Phe Gln Gln Leu Met Glu Glu Lys Asn Leu Asn Trp Lys				
	165		170	175
Val Val Asp Ala Ser Lys Arg Thr Pro Ser Glu Thr Leu His Arg Gly				
	180		185	190
His Trp Gly Ser Tyr Gly Asn Lys Ser Ala Ser Ile Ala Asn Thr Ile				
	195		200	205
Phe Trp Phe Cys Lys Arg Leu Val Glu Gly Ser His Leu Tyr Thr Ile				
	210		215	220
Ser Arg Ser				
225				

<210> 8
 <211> 210
 <212> PRT
 <213> Mycoplasma pneumoniae

<400> 8
 Met Lys Gln Gly Val Phe Val Ala Ile Glu Gly Val Asp Gly Ala Gly
 1 5 10 15
 Lys Thr Val Leu Leu Glu Ala Phe Lys Gln Arg Phe Pro Gln Ser Phe
 20 25 30

Leu Gly Phe Lys Thr Leu Phe Ser Arg Glu Pro Gly Gly Thr Pro Leu
 35 40 45
 Ala Glu Lys Ile Arg Ala Leu Leu Leu His Glu Ala Met Glu Pro Leu
 50 55 60
 Thr Glu Ala Tyr Leu Phe Ala Ala Ser Arg Thr Glu His Val Arg Gln
 65 70 75 80
 Leu Ile Gln Pro Ala Leu Gln Gln Lys Gln Leu Val Ile Val Asp Arg
 85 90 95
 Phe Val Trp Ser Ser Tyr Ala Tyr Gln Gly Leu Ile Lys Lys Val Gly
 100 105 110
 Leu Asp Val Val Lys Lys Leu Asn Ala Asp Ala Val Gly Asp Ser Met
 115 120 125
 Pro Asp Phe Thr Phe Ile Val Asp Cys Asp Phe Glu Thr Ala Leu Asn
 130 135 140
 Arg Met Ala Lys Arg Gly Gln Asp Asn Leu Leu Asp Asn Thr Val Lys
 145 150 155 160
 Lys Gln Ala Asp Phe Asn Thr Met Arg Gln Tyr Tyr His Ser Leu Val
 165 170 175
 Asp Asn Lys Arg Val Phe Leu Leu Asp Gly Gln Asn Gln Thr Gly Cys
 180 185 190
 Leu Glu Gln Phe Ile Glu Gln Leu Ser Gln Cys Leu Thr Gln Pro Thr
 195 200 205
 Leu Ser
 210

<210> 9
 <211> 210
 <212> PRT
 <213> Mycoplasma genitalium

<400> 9
 Met Asn Lys Gly Val Phe Val Val Ile Glu Gly Val Asp Gly Ala Gly
 1 5 10 15
 Lys Thr Ala Leu Ile Glu Gly Phe Lys Lys Leu Tyr Pro Thr Lys Phe
 20 25 30

Leu Asn Tyr Gln Leu Thr Tyr Thr Arg Glu Pro Gly Gly Thr Leu Leu
 35 40 45
 Ala Glu Lys Ile Arg Gln Leu Leu Leu Asn Glu Thr Met Glu Pro Leu
 50 55 60
 Thr Glu Ala Tyr Leu Phe Ala Ala Ala Arg Thr Glu His Ile Ser Lys
 65 70 75 80
 Leu Ile Lys Pro Ala Ile Glu Lys Glu Gln Leu Val Ile Ser Asp Arg
 85 90 95
 Phe Val Phe Ser Ser Phe Ala Tyr Gln Gly Leu Ser Lys Lys Ile Gly
 100 105 110
 Ile Asp Thr Val Lys Gln Ile Asn His His Ala Leu Arg Asn Met Met
 115 120 125
 Pro Asn Phe Thr Phe Ile Leu Asp Cys Asn Phe Lys Glu Ala Leu Gln
 130 135 140
 Arg Met Gln Lys Arg Gly Asn Asp Asn Leu Leu Asp Glu Phe Ile Lys
 145 150 155 160
 Gly Lys Asn Asp Phe Asp Thr Val Arg Ser Tyr Tyr Leu Ser Leu Val
 165 170 175
 Asp Lys Lys Asn Cys Phe Leu Ile Asn Gly Asp Asn Lys Gln Glu His
 180 185 190
 Leu Glu Lys Phe Ile Glu Leu Leu Thr Arg Cys Leu Gln Gln Pro Thr
 195 200 205
 His Tyr
 210

<210> 10
 <211> 210
 <212> PRT
 <213> Schizosaccharomyces pombe

<400> 10
 Met Ser Lys Gln Asn Arg Gly Arg Leu Ile Val Ile Glu Gly Leu Asp
 1 5 10 15
 Arg Ser Gly Lys Ser Thr Gln Cys Gln Leu Leu Val Asp Lys Leu Ile
 20 25 30

Leu Asn Met Lys Arg Leu Lys Leu Phe Lys Phe Pro Asp Arg Thr Thr
 35 40 45
 Ala Ile Gly Lys Lys Ile Asp Asp Tyr Leu Thr Glu Ser Val Gln Leu
 50 55 60
 Asn Asp Gln Val Ile His Leu Leu Phe Ser Ala Asn Arg Trp Glu Pro
 65 70 75 80
 Ser Ile Tyr Tyr Arg Ala Asn Gln Gln Arg Cys Asn Cys Ile Leu Asp
 85 90 95
 Arg Tyr Ala Phe Ser Gly Ile Ala Phe Ser Ala Ala Lys Gly Leu Asp
 100 105 110
 Trp Glu Trp Cys Lys Ser Pro Asp Arg Gly Leu Thr Arg Pro Asp Leu
 115 120 125
 Val Ile Phe Leu Asn Val Asp Pro Arg Ile Ala Ala Thr Arg Gly Gln
 130 135 140
 Tyr Gly Glu Glu Arg Tyr Glu Lys Ile Glu Met Gln Glu Lys Val Leu
 145 150 155 160
 Lys Asn Leu Gln Arg Leu Gln Lys Glu Phe Arg Glu Glu Gly Leu Glu
 165 170 175
 Phe Ile Thr Leu Asp Ala Ser Ser Tyr Ala Leu Glu Asp Val Asp Ser
 180 185 190
 Gln Ile Val Asp Leu Val Ser Asn Val Asn Ile His Glu Thr Leu Asp
 195 200 205
 Val Leu
 210

<210> 11
 <211> 204
 <212> PRT
 <213> Vaccinia virus

<400> 11
 Met Ser Arg Gly Ala Leu Ile Val Phe Glu Gly Leu Asp Lys Ser Gly
 1 5 10 15
 Lys Thr Thr Gln Cys Met Asn Ile Met Glu Ser Ile Pro Ala Asn Thr

	20		25		30												
Ile	Lys	Tyr	Leu	Asn	Phe	Pro	Gln	Arg	Ser	Thr	Val	Thr	Gly	Lys	Met		
	35						40					45					
Ile	Asp	Asp	Tyr	Leu	Thr	Arg	Lys	Lys	Thr	Tyr	Asn	Asp	His	Ile	Val		
	50					55					60						
Asn	Leu	Leu	Phe	Cys	Ala	Asn	Arg	Trp	Glu	Phe	Ala	Ser	Phe	Ile	Gln		
65					70					75					80		
Glu	Gln	Leu	Glu	Gln	Gly	Ile	Thr	Leu	Ile	Val	Asp	Arg	Tyr	Ala	Phe		
				85					90					95			
Ser	Gly	Val	Ala	Tyr	Ala	Ala	Ala	Lys	Gly	Ala	Ser	Met	Thr	Leu	Ser		
			100					105					110				
Lys	Ser	Tyr	Glu	Ser	Gly	Leu	Pro	Lys	Pro	Asp	Leu	Val	Ile	Phe	Leu		
		115					120					125					
Glu	Ser	Gly	Ser	Lys	Glu	Ile	Asn	Arg	Asn	Val	Gly	Glu	Glu	Ile	Tyr		
130						135					140						
Glu	Asp	Val	Thr	Phe	Gln	Gln	Lys	Val	Leu	Gln	Glu	Tyr	Lys	Lys	Met		
145					150					155					160		
Ile	Glu	Glu	Gly	Asp	Ile	His	Trp	Gln	Ile	Ile	Ser	Ser	Glu	Phe	Glu		
				165					170					175			
Glu	Asp	Val	Lys	Lys	Glu	Leu	Ile	Lys	Asn	Ile	Val	Ile	Glu	Ala	Ile		
			180					185					190				
His	Thr	Val	Thr	Gly	Pro	Val	Gly	Gln	Leu	Trp	Met						
		195					200										

<210> 12
 <211> 205
 <212> PRT
 <213> Variola virus

<400> 12
 Met Ser Arg Gly Ala Leu Ile Val Phe Glu Gly Leu Asp Lys Ser Gly
 1 5 10 15
 Lys Thr Thr Gln Cys Met Asn Ile Met Glu Ser Ile Pro Thr Asn Thr
 20 25 30

Ile	Lys	Tyr	Leu	Asn	Phe	Pro	Gln	Arg	Ser	Thr	Val	Thr	Gly	Lys	Met
		35					40					45			
Ile	Asp	Asp	Tyr	Leu	Thr	Arg	Lys	Lys	Thr	Tyr	Asn	Asp	His	Ile	Val
	50					55					60				
Asn	Leu	Leu	Phe	Cys	Ala	Asn	Arg	Trp	Glu	Phe	Ala	Ser	Phe	Ile	Gln
65					70					75					80
Glu	Gln	Leu	Glu	Gln	Gly	Ile	Thr	Leu	Ile	Val	Asp	Arg	Tyr	Ala	Phe
				85					90					95	
Ser	Gly	Val	Ala	Tyr	Ala	Thr	Ala	Lys	Gly	Ala	Ser	Met	Thr	Leu	Ser
			100					105					110		
Lys	Ser	Tyr	Glu	Ser	Gly	Leu	Pro	Lys	Pro	Asp	Leu	Val	Ile	Phe	Leu
		115					120					125			
Glu	Ser	Gly	Ser	Lys	Glu	Ile	Asn	Arg	Asn	Val	Gly	Glu	Glu	Ile	Tyr
	130					135					140				
Glu	Asp	Val	Ala	Phe	Gln	Gln	Lys	Val	Leu	Gln	Glu	Tyr	Lys	Lys	Met
145					150					155					160
Ile	Glu	Glu	Gly	Glu	Asp	Ile	His	Trp	Gln	Ile	Ile	Ser	Ser	Glu	Phe
				165					170					175	
Glu	Glu	Asp	Val	Lys	Lys	Glu	Leu	Ile	Lys	Asn	Ile	Val	Ile	Glu	Ala
			180					185						190	
Ile	His	Thr	Val	Thr	Gly	Pro	Val	Gly	Gln	Leu	Trp	Met			
		195					200					205			

<210> 13

<211> 216

<212> PRT

<213> *Saccharomyces cerevisiae*

<400> 13

Met	Met	Gly	Arg	Gly	Lys	Leu	Ile	Leu	Ile	Glu	Gly	Leu	Asp	Arg	Thr
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Gly	Lys	Thr	Thr	Gln	Cys	Asn	Ile	Leu	Tyr	Lys	Lys	Leu	Gln	Pro	Asn
			20					25					30		
Cys	Lys	Leu	Leu	Lys	Phe	Pro	Glu	Arg	Ser	Thr	Arg	Ile	Gly	Gly	Leu
		35					40					45			

Ile Asn Glu Tyr Leu Thr Asp Asp Ser Phe Gln Leu Ser Asp Gln Ala
 50 55 60
 Ile His Leu Leu Phe Ser Ala Asn Arg Trp Glu Ile Val Asp Lys Ile
 65 70 75 80
 Lys Lys Asp Leu Leu Glu Gly Lys Asn Ile Val Met Asp Arg Tyr Val
 85 90 95
 Tyr Ser Gly Val Ala Tyr Ser Ala Ala Lys Gly Thr Asn Gly Met Asp
 100 105 110
 Leu Asp Trp Cys Leu Gln Pro Asp Val Gly Leu Leu Lys Pro Asp Leu
 115 120 125
 Thr Leu Phe Leu Ser Thr Gln Asp Val Asp Asn Asn Ala Glu Lys Ser
 130 135 140
 Gly Phe Gly Asp Glu Arg Tyr Glu Thr Val Lys Phe Gln Glu Lys Val
 145 150 155 160
 Lys Gln Thr Phe Met Lys Leu Leu Asp Lys Glu Ile Arg Lys Gly Asp
 165 170 175
 Glu Ser Ile Thr Ile Val Asp Val Thr Asn Lys Gly Ile Gln Glu Val
 180 185 190
 Glu Ala Leu Ile Trp Gln Ile Val Glu Pro Val Leu Ser Thr His Ile
 195 200 205
 Asp His Asp Lys Phe Ser Phe Phe
 210 215

<210> 14

<211> 31

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
 natural origin, hypothetical

<400> 14

ggaattccat atgcgcagta agtatatcgt c

31

<210> 15
<211> 34
<212> DNA
<213> Artificial Sequence

B' <220>
<223> Description of Artificial Sequence: synthetic, no
natural origin, hypothetical

<400> 15
cgcggtatcct catgcgtcca actccttcac ccag

34